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IN THE CLAIMS

1. (Original) A fuel system comprising:

a fuel storage tank;

a downstream use for fuel;

a fluid connection for communicating fuel from said fuel storage tank to said downstream use; and

a fuel deoxygenator mounted in said fluid connection, said fuel deoxygenator having a microporous polymer membrane disposed therein that defines a fuel passage within said fuel deoxygenator device for flow of fuel therethrough, wherein said microporous polymer membrane is comprised of micropores that that have been reduced in size from a first size to a second size by a heat treatment, said second size being large enough to generally allow migration of a gas through said microporous polymer membrane and small enough to generally prevent migration of fuel into said microporous polymer membrane.

2. (Original) The fuel system as recited in claim 1, wherein said microporous polymer membrane is supported by a substrate.

3. (Original) The fuel system as recited in claim 1, wherein said heat treatment comprises heating the microporous polymer membrane at a temperature above 100°C.

4. (Original) The fuel system as recited in claim 3, wherein said heat treatment comprises heating the microporous polymer membrane at a temperature between about 130°C and about 150°C for about two hours.

5. (Original) The fuel system as recited in claim 4, wherein said microporous polymer membrane is an amorphous fluoropolymer.

6. (Original) A method of preventing a liquid from migrating into a microporous polymer membrane comprising the steps of:

heating a microporous polymer membrane to a predetermined temperature for a predetermined time to reduce the size of micropores in the microporous polymer membrane from a first size to a second size, the second size being large enough to allow migration of a gas through the membrane and small enough to prevent migration of a liquid into the membrane; and

disposing said microporous polymer membrane in a fluid separating device.

7. (Original) The method as recited in claim 6, wherein the predetermined temperature is above 100°C.

8. (Original) The method as recited in claim 7, wherein the polymer of the microporous polymer membrane has a glass transition temperature and the predetermined temperature is greater than the glass transition temperature.

9. (Original) The method as recited in claim 7, wherein the polymer of the microporous polymer membrane has a glass transition temperature and the predetermined temperature is about equal to the glass transition temperature.

10. (Original) The method as recited in claim 7, wherein the predetermined temperature is between about 130°C and about 150°C.

11. (Original) The method as recited in claim 7, wherein the predetermined time is about two hours.

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12. (Original) The method as recited in claim 7, wherein the microporous polymer membrane is an amorphous fluoropolymer.

13. (Original) The method as recited in claim 7, wherein the fluid separating device is a fuel deoxygenator in a fuel system.

14. (Original) The method as recited in claim 7, wherein the fluid separating device is in an aircraft.

15. (Currently Amended) A microporous polymer membrane comprising micropores that have been reduced in size from a first size to a second size by a heat treatment, said second size being large enough to generally allow migration of a gas through said microporous polymer membrane and small enough to generally prevent migration of a liquid into said microporous polymer membrane, wherein the microporous polymer membrane is an amorphous fluoropolymer.

16. (Original) The microporous polymer membrane as recited in claim 15, wherein said heat treatment comprises heating said microporous polymer membrane above 100°C.

17. (Original) The microporous polymer membrane as recited in claim 16, wherein the polymer of the microporous polymer membrane has a glass transition temperature and said heat treatment comprises heating said microporous polymer membrane to a temperature greater than said glass transition temperature.

18. (Original) The microporous polymer membrane as recited in claim 16, wherein the polymer of the microporous polymer membrane has a glass transition temperature and said heat treatment comprises heating said microporous polymer membrane to a temperature that is about equal to said glass transition temperature.

19. (Original) The microporous polymer membrane as recited in claim 16, wherein said heat treatment comprises heating the microporous polymer membrane to between about 130°C and about 150°C.

20. (Original) The microporous polymer membrane as recited in claim 16, wherein said heat treatment comprises heating the microporous polymer membrane for about two hours.

21. (Cancelled)

22. (Original) A fuel deoxygenator device comprising:

a fuel side and a non-fuel side separated by a microporous polymer membrane for removing gas from fuel flowing in contact with said microporous polymer membrane on said fuel side, and said microporous polymer membrane comprising micropores that have been reduced in size from a first size to a second size by a heat treatment, said second size being large enough to generally allow migration of said gas through said microporous polymer membrane and small enough to generally prevent migration of said fuel into said microporous polymer membrane.

23. (Original) The fuel deoxygenator device as recited in claim 22, wherein said non-fuel side comprises a lower gas partial pressure than said fuel side.

24. (Original) The fuel deoxygenator device as recited in claim 23, wherein said gas partial pressure comprises oxygen partial pressure.

25. (Previously Presented) The method as recited in claim 6, further comprising forming the microporous polymer membrane in a step that is separate and distinct from heating the microporous polymer membrane to reduce the size of the micropores.

26. (Previously Presented) The microporous polymer membrane as recited in claim 15, wherein the first size corresponds to the microporous polymer membrane after membrane formation and the second size corresponds to the microporous polymer membrane after the heat treatment.